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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/895,868 | 06/29/2001 | Gregory K. Myers | SRI/4483-2 | 5369 |

7590 02/16/2005
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EXAMINER

COUSO, YON JUNG

ART UNIT PAPER NUMBER

2625

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 09/895,868 | Applicant(s) MYERS ET AL. | |
| | Examiner Yon Couso | Art Unit 2625 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 24-43 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 44-50 is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. Applicant's arguments with respect to claims 1-4, 9, 12, 14-19, and 22 have been considered but are moot in view of the new ground(s) of rejection.

2. Claims 1-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The newly added limitation "adjusting in all three dimensions" is not described in the originally filed specification. The examiner believes that, what is taught in the original specification is adjusting the effect caused by the capturing three-dimensional scene.

However, the claims will be examined in light of the specification, which teaches two-dimensional adjustment to the captured image in order to compensate the effect caused by the capturing three-dimensional scene.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 9, 12, 13-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tyan et al (US Patent No. 6,473,517) in view of Dance et al (US Patent No. 6,512,539).

As per claims 1 and 16, Tyan teaches a method and an apparatus for recognizing text in a captured imagery, the apparatus comprising: means for detecting a text region in the captured imagery (column 4, lines 30-41); means for adjusting the detected text region to produce a rectified image (column 4, line 42-column 6, line 60); and means for applying optical character recognition processing to the rectified image to recognize the text in the captured imagery (column 6, line 61-column 7, line 58).

Even though Tyan does not teach details on adjusting in all three dimensions, Tyan clearly discloses capturing three-dimensional object (license plate in the car) and adjusting the detected text region to produce a rectified image (column 4, line 42-column 6, line 60). Kielland, which is in the same field of endeavor, namely reading license plate, discloses rectifying perspective distortion caused by oblique camera angle (the effect caused by the capturing three dimensional scene) at column 5, lines 46-53. Note that this particular teaching is in the background of the invention where Kielland wrote, "Typically, before attempting to recognize the plate-string's characters, the

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distortion ---", telling us that it is old and well-known in the art at the time invention was made to rectifying perspective distortion caused by oblique camera angle before performing OCR (column 5, lines 46-53). It would have been obvious to one of ordinary skills in the art, at the time the invention was made, to incorporate what was disclosed in Kielland's reference into Tyan's vehicle license plate recognition system because it would improve the accuracy of the character recognition.

As per claim 2 and 17, Tyan teaches that the adjusting means computes a base line and a top line for a line of detected text within the detected text region (column 5, lines 47-67).

As per claims 3 and 18, Tyan teaches the base line and the top line correlate substantially to horizontal parallel lines of a rectangular bounding box that is fitted to the line of detected text (refined position image in figure 4).

As per claims 4 and 19, Tyan teaches the base line and the top line are estimated by rotating the line of detected text at various angles and then computing a plurality of horizontal projections over a plurality of vertical edge projections (column 5, lines 7-46).

As per claims 9 and 22, Tyan teaches adjusting means further computes a dominant vertical direction of character strokes for a line of detected text within the detected text region (column 5, lines 7-67).

As per claim 12, Tyan teaches binarizing the detected text region prior to applying the OCR processing step (binarized image in figure 4).

As per claim 13, Tyan discloses on applying agglomeration processing

subsequent to the OCR processing to produce the text in the captured imagery (116 in figure 7 and column 8, line 62-column 9, line 5).

As per claim 14 Tyan does not teach details on applying lexicon processing and applying false text elimination processing subsequent to the OCR processing to produce the text in the captured imagery. However, use of lexicon to verify the OCR process is old and well-known in the art because if the merged characters forming a word would find a match in the dictionary, there is a very high chance the OCR was performed correctly (official notice).

As per claim 15, Tyan discloses applying false text elimination processing subsequent to the OCR processing to produce the text in the captured imagery (column 9, lines 54-55).

4. Claims 5, 6, 10, 11, 20, 21 and 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

5. Claims 44-50 are allowed.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

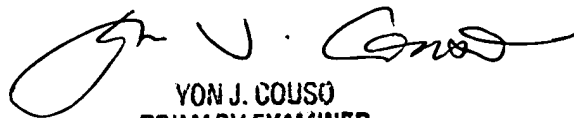
Masuda and Seeger et al are also cited.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yon Couso whose telephone number is (703) 305-4779. The examiner can normally be reached on Monday through Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YJC



YON J. COUSO
PRIMARY EXAMINER

February 11, 2005